August 28, 2015

Mr. Christopher Bonsignore, P.E.
Principal Engineer
Environmental Compliance Section
Bureau of Engineering and Highway Operations
State of Connecticut Department of Transportation
2800 Berlin Turnpike, P.O. Box 317546
Newington, CT 06131-7546

Attention: Adam Fox, P.E. / Roger Leveque, P.E.

Subject: On-Call Asbestos, Lead, Air Quality & Demolition Compliance
Agreement No. 08.24-03(11)
HazMat Inspection - Bridge No. 01748, Mayflower St. over I-84, West Hartford, CT
ConnDOT Assignment No. 504-5077
ConnDOT Project No. 155-169
TRC Project No. 183572.5077.00710

Dear Mr. Bonsignore:

TRC performed a limited survey for hazardous building materials associated with the planned rehabilitation of Bridge No. 01748 in West Hartford, Connecticut. Results of the survey identified lead paint to be present on the structural steel/metal bridge components (0.7- 16.5 mg/cm^2) of Bridge No. 01748. Results obtained from TCLP waste stream sampling and analysis for leachable lead from the paint on the structural steel and metal bridge surfaces, characterized the paint waste stream at Bridge No. 01748 as EPA RCRA/CTDEEP hazardous waste (150 mg/l). Also, lead wool joints have been identified on the rain leaders of the bridge. Black drain pipes within the base of the abutments were sampled for asbestos content, and were found to contain asbestos. Other suspect materials such as expansion joint material, pipe wrapping, rocker/bearing pad cloth and pipe insulation were sampled and were found to contain no asbestos. No bird/pigeon guano accumulations were identified in accessible areas of Bridge No. 01748. Associated laboratory data, site map and photos are attached.

If you have any questions, please call TRC at (860) 298-9692.

Very Truly Yours,

TRC

Erik R. Plimpton, P.E., CHMM, CMC
Program Manager

E. Burke, P.E.
Engineer in Charge

Lead Based Paint Measurement Summary Table

Device(s):	Niton XLP301-A (Serial #25555) X Ray Fluorescence (XRF) Spectrum Analyzer
Site:	CT DOT - Bridge No. 01748, West Hartford, CT
Project # :	183572.5077.0710
Date(s):	2/19/2015
Inspector:	Mike Kostruba (Lead Inspector/RA #002207)

Number	Interior/ Exterior	Location	Bridge #	Structure	Feature	Material	Color	Condition	Reading (mg/cm2)	Precision (mg/cm2)	Depth Index	Duration (sec)	Date/Time
1			**Self Calibration**									48.2	2/19/2015 10:48
2			**0.0 Calibration**						0.0	0.0	1.0	7.5	2/19/2015 10:54
3			**0.7 Calibration**						0.7	0.1	1.1	10.4	2/19/2015 10:58
4			**0.7 Calibration**						0.6	0.1	1.0	10.9	2/19/2015 10:59
5			**3.5 Calibration**						3.2	0.2	1.2	13.3	2/19/2015 10:59
6	Exterior	W. Hartford	Bridge No. 01748	Metal bar fence		Metal	Brown/Orange	Defective	**13.4**	**2.5**	1.7	3.5	2/19/2015 11:06
7	Exterior	W. Hartford	Bridge No. 01748	Metal bar fence		Metal	Brown/Orange	Defective	**16.5**	**2.1**	1.8	5.2	2/19/2015 11:06
8	Exterior	W. Hartford	Bridge No. 01748	Metal bar fence		Metal	Brown/Orange	Defective	**10.6**	**4.2**	1.7	2.3	2/19/2015 11:06
9	Exterior	W. Hartford	Bridge No. 01748	Cross beam		Metal	Grey	Defective	**2.2**	**0.8**	3.2	2.3	2/19/2015 11:54
10	Exterior	W. Hartford	Bridge No. 01748	Cross beam		Metal	Grey	Defective	**16.2**	**2.3**	2.6	4.6	2/19/2015 11:54
11	Exterior	W. Hartford	Bridge No. 01748	Girder		Metal	Grey	Defective	**9.6**	**1.4**	2.6	7.5	2/19/2015 11:56
12	Exterior	W. Hartford	Bridge No. 01748	Girder		Metal	Grey	Defective	**9.1**	**1.3**	2.0	8.1	2/19/2015 11:56
13	Exterior	W. Hartford	Bridge No. 01748	Girder		Metal	Grey	Defective	**4.5**	**1.0**	2.6	9.2	2/19/2015 11:57
14	Exterior	W. Hartford	Bridge No. 01748	Girder		Metal	Grey	Defective	**13.1**	**1.4**	2.5	9.2	2/19/2015 11:57
15	Exterior	W. Hartford	Bridge No. 01748	Girder		Metal	Grey	Defective	**0.7**	**0.2**	3.2	4.0	2/19/2015 11:57
16	Exterior	W. Hartford	Bridge No. 01748	Bearing		Metal	Grey	Defective	**4.9**	**1.1**	2.6	9.2	2/19/2015 12:00
17	Exterior	W. Hartford	Bridge No. 01748	Drain pipe		Metal	Grey	Defective	**10.9**	**4.4**	1.8	2.3	2/19/2015 12:06
18	Exterior	W. Hartford	Bridge No. 01748	Drain pipe		Metal	Grey	Defective	**14.9**	**1.5**	1.7	8.7	2/19/2015 12:21
19			**0.0 Calibration**						0.0	0.0	1.0	6.9	2/19/2015 14:17
20			**0.7 Calibration**						0.6	0.1	1.0	9.8	2/19/2015 14:18
21			**3.5 Calibration**						3.5	0.2	1.3	17.3	2/19/2015 14:18

Lead paint includes paint found to contain **any detectable** amount of lead
by Atomic Absorption Spectrophotometry (AAS) or X-Ray Fluorescence (XRF).

80 Lupes Drive
Stratford, CT 06615

COMPLETE ENVIRONMENTAL TESTING, INC.

Tel: (203) 377-9984
Fax: (203) 377-9952
e-mail: cetl@cetlabs.com

Client: Mr. Erik Plimpton
TRC Environmental Consultants
21 Griffin Rd., North
Windsor, CT 06095

Analytical Report

CET# 5020295

Report Date:February 24, 2015
Project: CTDOT, Bridge 01748, W Hartford
Project Number: 183572.5077.0710

Connecticut Laboratory Certificate: PH 0116
Massachussetts laboratory Certificate: M-CT903

NELAP ACCREDITED TNI LABORATORY

New York Certification: 11982
Rhode Island Certification: 199

SAMPLE SUMMARY

The sample(s) were received at 24.5°C.

This report contains analytical data associated with following samples only.

Sample ID	Laboratory ID	Matrix	Collection Date/Time	Receipt Date
01	5020295-01	Solid	2/19/2015 12:30	02/20/2015

Analyte: TCLP Lead [EPA 6010C] **Analyst: SS**

Prep: EPA 3005A-1311 **Matrix: Extract**

Laboratory ID	Client Sample ID	Result	RL	Units	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
5020295-01	01	**150**	0.013	mg/L	1	B5B2103	02/21/2015	02/23/2015 16:53	

Questions related to this report should be directed to David Ditta, Timothy Fusco, or Robert Blake at 203-377-9984.

Sincerely,

David Ditta
Laboratory Director

Report Comments:

Sample Result Flags:
E- The result is estimated, above the calibration range.
H- The surrogate recovery is above the control limits.
L- The surrogate recovery is below the control limits.
B- The compound was detected in the laboratory blank.
P- The Relative Percent Difference (RPD) of dual column analyses exceeds 40%.
D- The RPD between the sample and the sample duplicate is high. Sample Homogenity may be a problem.
+- The Surrogate was diluted out.
*C1- The Continuing Calibration did not meet method specifications and was biased low for this analyte. Increased uncertainty is associated with the reported value which is likely to be biased low.
*C2- The Continuing Calibration did not meet method specifications and was biased high for this analyte. Increased uncertainty is associated with the reported value which is likely to be biased high.
*F1- The Laboratory Control Sample recovery is outside of control limits. Reported value for this analyte is likely to be biased on the low side.
*F2- The Laboratory Control Sample recovery is outside of control limits. Reported value for this analyte is likely to be biased on the high side.
I- The Analyte exceeds %RSD limits for the Initial Calibration. This is a non-directional bias.

All results met standard operating procedures unless indicated by a data qualifier next to a sample result, or a narration in the QC report.

Complete Environmental Testing is only responsible for the certified testing and is not directly responsible for the integrity of the sample before laboratory receipt.

ND is None Detected at the specified detection limit
All analyses were performed in house unless a Reference Laboratory is listed.
Samples will be disposed of 30 days after the report date.

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 6010C in Soil	
Lead	CT,NY

Complete Environmental Testing operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Public Health	PH0116	09/30/2016
NY	New York Certification (NELAC)	11982	04/01/2015

5020295

TRC
21 GRIFFIN ROAD NORTH
WINDSOR, CONNECTICUT 06095
TELEPHONE (860) 298-9692
FAX (860) 298-6380

Edition: September 2007
Supersede Previous Edition

CHAIN OF CUSTODY

LAB ID #.

PROJECT NUMBER	PROJECT NAME	PARAMETERS	TURNAROUND TIME
183572.5017 0710	RT Bridge #01748 W Hartford CT		24hr [ ] 48hr [X] 3day [ ] 5day [ ]
			24hr [ ] 48hr [ ] 3day [ ] 5day [ ]

SIGNATURE	INSPECTOR
(signature)	E Sanchez

FIELD SAMPLE NUMBER	DATE	TIME	TYPE: COMP	TYPE: GRAB	SAMPLE LOCATION	TCLP Pb				NOTES
C-1	2/19/15	1230			Structural/Fence	X				metal supports/rails

Relinquished by: (Signature)	Date:	Received by: (Signature)	Relinquished by: (Signature)	Date:	Received by: (Signature)
(signature)	2/19/15	(signature) 2-20-15 1330	(signature)	2-20-15	(signature)
(Printed) E Sanchez	Time: 1350	(Printed) Robert Pergamont	(Printed) Robert Pergamont	Time: 1610	(Printed)

Remarks:

TEMP N 24.5°

TRC

Edition: October 2009
Supersede Previous Edition

21 GRIFFIN ROAD NORTH
WINDSOR, CONNECTICUT 06095
TELEPHONE (860) 298-9692
FAX (860) 298-6380

ASBESTOS BULK SAMPLING CHAIN OF CUSTODY

CT DOT

LAB ID #. 45358

PROJECT NUMBER	PROJECT NAME
183572.5077.0710	Bridge 01748 Mayflower St. WH

SIGNATURE	INSPECTOR
	Mike Kastrulis

TURNAROUND TIME

PLM:		8hr		24hr	X	48hr		3day	
TEM:		24hr	X	48hr		3day		5day	

FIELD SAMPLE NUMBER	DATE	TIME	TYPE COMP	TYPE GRAB	SAMPLE LOCATION	PLM EPA 600/R93/116 (POSITIVE STOP)	PLM EPA 600/R93/116 (w/ gravimetric reduction) (POSITIVE STOP)	ANALYZE BY LAYER	POINT COUNT (IF >1% & <10%)	TEM NY NOB 198.4 (IF PLM SERIES NEG)	MATERIAL
1	2/19/15	1030-1245		X	South end - West side	X					PI1 - Brown Cellulose/Like Pipe Insulation Fluffy with Fiber Structures
2					" "						PI1 - " "
3					North Abutment						DP1 - 4" diameter black Drain Pipe
4					South Abutment					X	DP1 - " "
5					Southend - ~~West~~/East Side						PW1 - Black Tar paper Pipe wrap
6					" "					X	PW1 - " "
7					Southend - East Side			X			PW2 - Teflon Tape Pipe wrap with black fabric layers
8					" "			X		X	PW2 - " "
9					North Abutment						RBP1 - Rocker Bearing cloth like Pad
10					South Abutment						RBP1 - " "
11					North Abutment						EJM1 - Cork like expansion Joint material

Relinquished by: (Signature)	Date:	Received by: (Signature)	Relinquished by: (Signature)	Date:	Received by: (Signature)
	2/19/15	2/19/15			
(Printed) Mike Kastrulis	Time: 1435	(Printed) 1600 Williamson	(Printed)	Time:	(Printed)

Remarks:

Condition of Samples: _____
Acceptable: Yes ___/___ No _____
Comments:

TRC

21 GRIFFIN ROAD NORTH
WINDSOR, CONNECTICUT 06095
TELEPHONE (860) 298-9692
FAX (860) 298-6380

Edition: October 2009
Supersede Previous Edition

ASBESTOS BULK SAMPLING CHAIN OF CUSTODY

LAB ID #. 45358

PROJECT NUMBER	PROJECT NAME
183572.5077.0710	Bridge 01748 Mayflower St. WH

PARAMETERS

TURNAROUND TIME

PLM:		8hr		24hr	X	48hr		3day			
TEM:		24hr	X	48hr		3day		5day			

SIGNATURE	INSPECTOR
	Mike Kastrulis

FIELD SAMPLE NUMBER	DATE	TIME	TYPE COMP	TYPE GRAB	SAMPLE LOCATION	PLM EPA 600/R93/116 (POSITIVE STOP)	PLM EPA 600/R93/116 (w/ gravimetric reduction) (POSITIVE STOP)	ANALYZE BY LAYER	POINT COUNT (IF >1% & <10%)	TEM NY NOB 198.4 (IF PLM SERIES NEG)	MATERIAL
12	2/19/15	1030-1245		X	South Abutment	X				X	EJM1 - " "
13					Sidewalk - East Side				X		EJM2 - Sidewalk expansion joint ~~mastic~~ material - black
14					Sidewalk West Side					X	EJM2 - " "
15					Roadway - North						EJM3 - Roadway, black expansion joint ~~mastic~~ material
16					Roadway - South					X	EJM3 - " "

Relinquished by: (Signature)	Date:	Received by: (Signature)	Relinquished by: (Signature)	Date:	Received by: (Signature)
	2/19/15	2/19/15			
(Printed) Mike Kastrulis	Time: 1435	(Printed) Williamson 1600	(Printed)	Time:	(Printed)

Remarks:

Condition of Samples:
Acceptable: Yes ✓ No
Comments:

Industrial Hygiene Laboratory
21 Griffin Road North
Windsor, CT 06095
(860) 298-6308

TRC
Results you can rely on

BULK ASBESTOS ANALYSIS REPORT

CLIENT: CT Department of Transportation

Lab Log #:	0045358
Project #:	183572.5077.0710
Date Received:	02/19/2015
Date Analyzed:	02/20/2015

Site: Bridge 01748, Mayflower Street, West Hartford, CT

POLARIZED LIGHT MICROSCOPY by EPA 600/R-93/116

Sample No.	Color	Homogenous	Multi-Layered	Layer No.	Other Matrix Materials		Asbestos %	Asbestos Type
1	Brown	Yes	No	--	60%	synthetic fiber	ND	None
2	Brown	Yes	No	--	60%	synthetic fiber	ND	None
3	Black	Yes	No	--	30%	cellulose	ND	None
4	Black	Yes	No	--	30%	cellulose	ND	None
5	Black	Yes	No	--	30%	cellulose	ND	None
6	Black	Yes	No	--	30%	cellulose	ND	None
7	Black	Yes	No	--	20%	synthetic fiber	ND	None
8	Black	Yes	No	--	20%	synthetic fiber	ND	None
9	Black	Yes	No	--	80%	cellulose	ND	None
10	Black	Yes	No	--	80%	cellulose	ND	None
11	Brown	Yes	No	--		---	ND	None
12	Brown	Yes	No	--		---	ND	None
13	Black	Yes	No	--		---	ND	None
14	Black	Yes	No	--		---	ND	None
15	Black	Yes	No	--		---	ND	None
16	Black	Yes	No	--		---	ND	None

Industrial Hygiene Laboratory
21 Griffin Road North
Windsor, CT 06095
(860) 298-6308

TRC
Results you can rely on

POLARIZED LIGHT MICROSCOPY by EPA 600/R-93/116

Sample No.	Color	Homogenous	Multi-Layered	Layer No.	Other Matrix Materials	Asbestos %	Asbestos Type

Reporting limit- asbestos present at 1%
ND - asbestos was not detected
Trace - asbestos was observed at level of less than 1%
NA/PS - Not Analyzed / Positive Stop

Note: Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, negative results must be confirmed by quantitative transmission electron microscopy.

The Laboratory at TRC follows the EPA's Interim Method for the Determination of Asbestos in Bulk Insulation (1982), and the EPA recommended Method for the Determination of Asbestos in Bulk Building Materials (EPA/600/R-93/116), July 1993, R.L. Perkins and B.W. Harvey which utilizes polarized light microscopy (PLM). Our analysts have completed an accredited course in asbestos identification. TRC's Laboratory is accredited under the National Voluntary Laboratory Accreditation Program (NVLAP), for Bulk Asbestos Fiber Analysis, NVLAP Code 18/A01, effective through June 30, 2015. TRC is an American Industrial Hygiene Association (AIHA) accredited lab for PLM effective through October 1, 2014. Asbestos content is determined by visual estimate unless otherwise indicated. Quality Control is performed in-house on at least 10% of samples and the QC data related to the samples is available upon written request from the client.

Analyzed by: K. Williamson — Kathleen Williamson, Laboratory Manager

Reviewed by: Amanda Parkins — Amanda Parkins, Approved Signatory

Date Issued
02/20/2015

Proscience Analytical Services, Inc.

NT 15051

22 Cummings Park, Woburn, MA 01801 Ph. 781-935-3212 Fax 781-932-4857

TEM Bulk Chain of Custody Record

Date: 02/20/15

PO#: **C183572** Analysis Type: Chatfield **EPA N.O.B** Qualitative

Client: TRC

Client Job#: 183572.5077.0710

Client Job Ref./Loc.: CT DOT – Bridge 01748, Mayflower Street, West Hartford, CT

Relinquished by: K. Williamson – KWilliamson@trcsolutions.com

Received by: Doreen Johnson 2.23.15 @ 8:50

Report to: E. Plimpton – EPlimpton@trcsolutions.com & E. Bouley – EBouley@trcsolutions.com

Samplers Name: M. Kostruba

Turn Around Time: <12 Hour <24 Hour **<48 Hour** <3 Day 5 Day Other:

				For Lab Use Only	
Client ID #	**Lab ID#**	**Description**	**Location**	**Acceptable on Receipt**	**Comments**
4	45358	Drain Pipe	See COC		
6	45358	Tar Paper			
8	45358	Pipe Wrap			
14	45358	Expansion Joint			
16	45358	Expansion Joint			

For Lab Use Only	# Spies	Total	Client #	Batch #	Results Reported	Comments

ProScience Analytical Services, Inc.

22 Cummings Park, Woburn, Massachusetts 01801
781-935-3212 ~ Fax: 781-932-4857 ~ E-Mail general@proscience.net

Laboratory Report

Client Project #: 183572.5077.0710
Client Reference: CT DOT- Bridge 01748, Mayflower Street, West Hartford, CT
PO #: C183572
Client #: 297
Client Name: TRC Environmental Corp. (CT)

Batch: **NT 15051**
Method: NOB
Date Received: 2/23/2015
Date Analyzed: 2/25/2015
Date of Report: 2/25/2015

LAB ID	Field ID	Description:	Color	Initial Weight	% Asbestos Types						% Other	%	%	Total %	Analyzed /	Prepped /
					CHR	AMO	ACT	CRO	ANT	TRE	Non-asb.	Organic	Carb.	Asbestos	Charged	Charged
NT114561	4	4" Diameter Black Drainpipe		.2540	1.17	.00	.00	.00	.00	.00	3.51	77.64	17.68	**1.17**	Yes	No
NT114562	6	Black Tar Paper Pipe Wrap		.1731	.00	.00	.00	.00	.00	.00	19.41	74.00	6.59	**ND**	Yes	No
NT114563	8	Teflon Tape Pipewrap with Black Tar Layer		.1976	.00	.00	.00	.00	.00	.00	18.87	78.09	3.04	**ND**	Yes	No
NT114564	14	Sidewalk Expansion Joint Material, Black		.1185	.00	.00	.00	.00	.00	.00	21.86	66.92	11.22	**ND**	Yes	No
NT114565	16	Roadway, Black Expansion Joint Material		.1506	.00	.00	.00	.00	.00	.00	27.09	64.61	8.30	**ND**	Yes	No

Comments:

Key: CHR = Chrysotile AMO = Amosite CRO = Crocidolite ACT = Actinolite TRE = Tremolite ANT = Anthophyllite TR = Trace = < 1% ND = None Detected

Aimee Cormier, Analyst

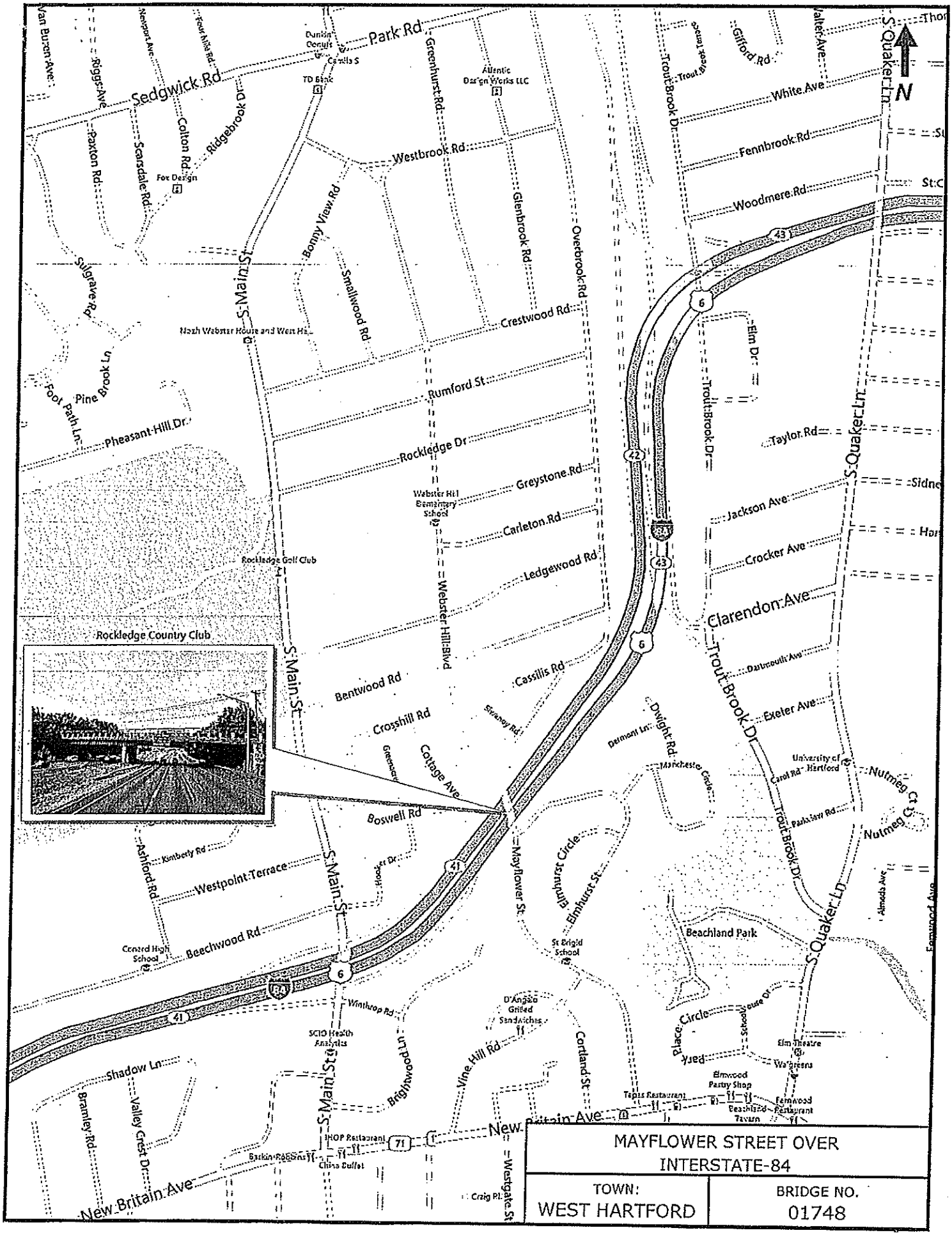
Bridge No. 01748 (Project No. 155-169): Mayflower Street over Interstate 84

This project involves the rehabilitation of Bridge No. 01748, which carries two lanes of Mayflower Street in each direction over Interstate 84 (I-84). Bridge No. 01748 is a two-span, continuous steel, multi-girder superstructure consisting of a reinforced concrete deck with a bituminous overlay and membrane waterproofing. The structure is supported by reinforced concrete abutments and a single pier. The existing structure has a maximum span length of 134 feet with an overall length of 260 feet. The curb-to-curb width is 40 feet, which is consistent with the approach roadway, and the out-to-out deck width is 53.7 feet. The structure has skew angle of 38 degrees with respect to I-84 below. Concrete sidewalks are located on both sides of the bridge measuring 5 feet 7 inches wide each. The estimated 2011 Average Daily Traffic (ADT) on the bridge is 3,600 vehicles, while the estimated 2012 ADT on I-84 at the project site is 120,700 vehicles.

The bridge is deemed structurally deficient due to the superstructure rating of "4" and functionally obsolete due to the existing minimum vertical clearance over I-84. The substandard structure rating is due to the poor condition of the superstructure steel and paint with section losses in critical areas. The sliding bearings at the abutments have impacted rust with gaps between plates, while the fixed bearings at the pier exhibit areas of peeling paint with rust.

The proposed rehabilitation consists of replacing the existing superstructure with a two-span, continuous, high performance weathering steel superstructure with steel plate girders. The minimum vertical clearance over I-84 is proposed to be 16 feet 3 inches. The substructure will also need to be modified in order to accommodate the new plate girders and raised roadway profile. The pier will be partially infilled with new concrete to ensure the structural stability of the new superstructure. Additionally, the existing abutments and piers will be patched as necessary. The existing bridge conduits as well as gas and water pipes will be shifted, as necessary, during construction. The existing approach guide railing will be replaced with Type R-B 350 metal beam rail and will be attached to the new parapets. Additionally, the chain link safety fence will be replaced along the deck parapets with a 7-foot high curved top fence system.

The existing superstructure will be replaced using stage construction. A 14-foot travel lane will be maintained to accommodate alternating one-way traffic controlled by temporary signalization. During Stage 1, traffic will use the west side of the existing structure while the east side is being constructed. During Stage 2, traffic will shift to the newly constructed east side so the remainder of the structure can be built. Pedestrian traffic will be maintained at all times, using the sidewalk adjacent to the travel lane. Access to Elmhurst Street from Mayflower Street will be closed at the project site during Stage 1 and access to Boswell Road from Mayflower Street will be closed at the project site during Stage 2. Construction is anticipated to begin in the spring of 2016 and be completed by late fall of 2016. The total construction duration is approximately 9 months.



MAYFLOWER STREET OVER INTERSTATE-84	
TOWN: WEST HARTFORD	BRIDGE NO. 01748

SHEET NO. _____ OF _____

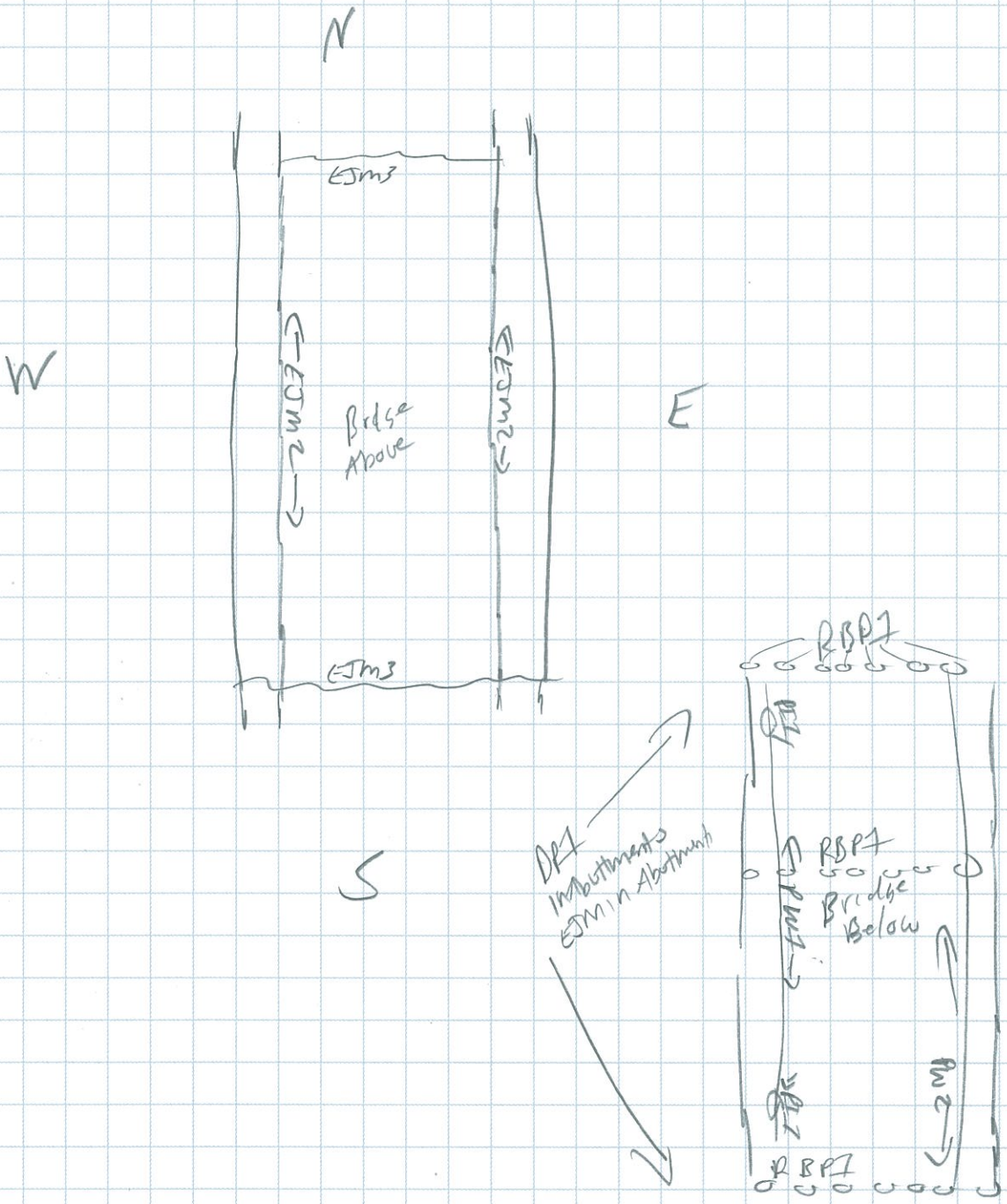
PROJECT NO. _____

DATE _____

BY mk

CHK'D _____

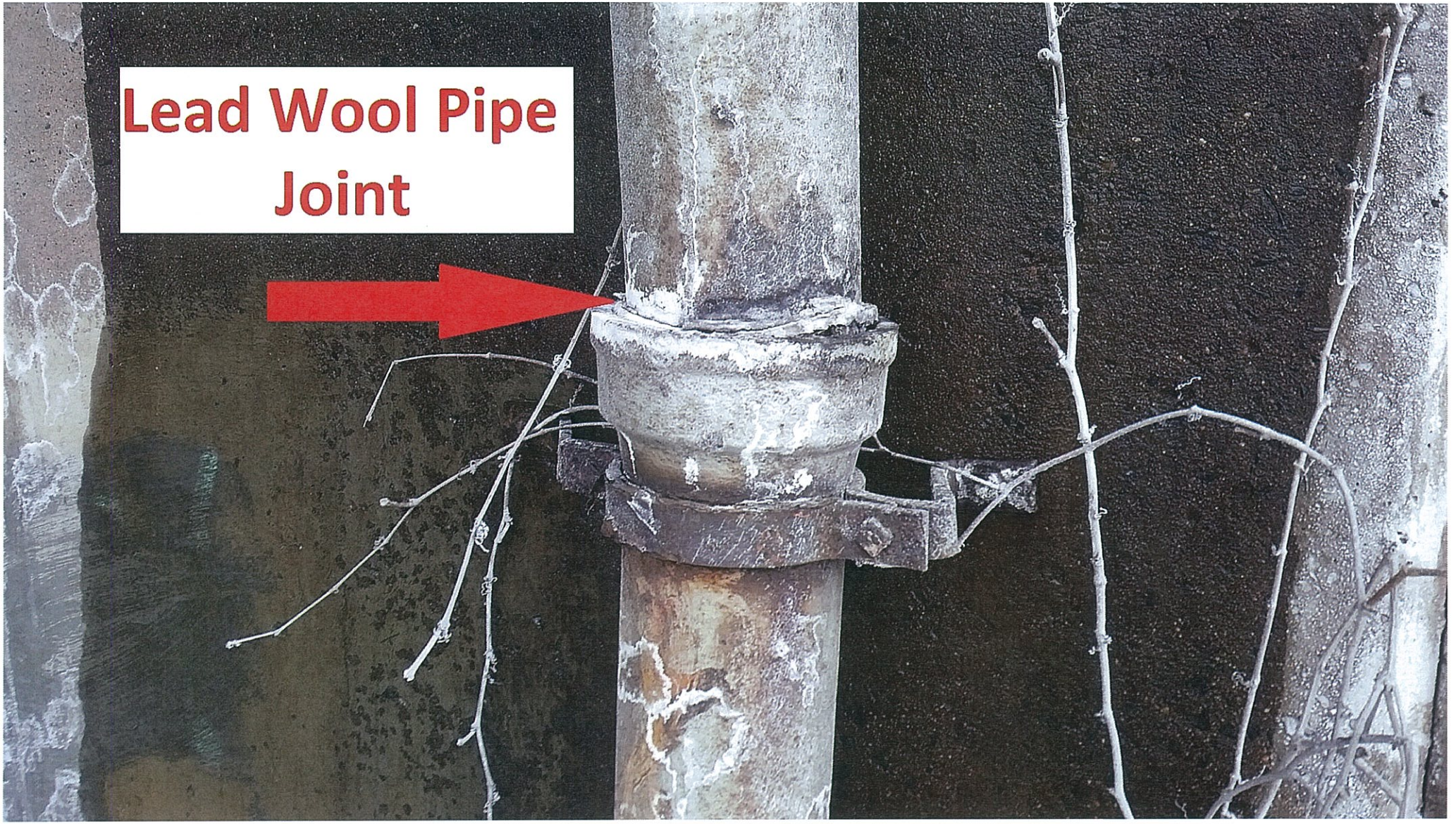
SUBJECT Bridge 07148 - Mayflower St.



A


01748


01748
ACM Drain Pipes
at Abutments


Lead Wool Pipe
Joint